

**Hanford Environmental Health Foundation**

**Medical Director's Performance Report**

**2002**

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## **Medical Director's Report**

FY 2002 was a turning point for the medical direction of HEHF concerning the handling of legacy medical issues, current medical issues, and the prevention of future medical issues. Population Health Management was implemented with the pro-active identification of tank farm workers with concerns of unknown exposures. The implementation of the 3-year prospective medical surveillance study has been an excellent risk communication tool in dealing with the concerns of the workers. The following are 7 areas that have been studied in FY 2002:

### **Tank Farm Workers**

Due to increasing medical concerns that workers from CHG2M Hill were having concerning exposures to the smell of vapors from the tank farms, HEHF performed a cross-sectional study of all abnormal laboratory values for the months of April and June 2002 for all tank farm workers who presented to HEHF for their routine monitoring examinations. A thorough evaluation of 64 medical records revealed three employees with laboratory results that were not readily explainable (2 workers with abnormal liver enzymes and one worker with anemia). The other 61 workers had explainable medical reasons for their abnormal findings. The detailed evaluation of the tank farm workers did not identify any evidence of current medical problems associated with exposures. The 3 workers identified have been placed into a tracking system. An on-going evaluation of abnormal laboratory values and physical findings will continue with the tank farm workers for the next 36 months to ascertain any work-related medical problems associated with tank farm exposures.

### **Pro-Active Approach to Patient Safety**

The hypothesis was developed indicating the HEHF medical affairs employees were not fully utilizing the Incident Reporting system to report patient care concerns to the medical director. An anonymous survey was given to each employee to ascertain their concerns about reporting incidences to the medical director. The first survey was given in April 2002 which indicated key problem areas with individuals feeling uncomfortable to file a report, problems with the reporting process, not knowing how to fill out an incident report, not knowing what happens once the report is filed. The medical affairs department then provided education to the employees about the importance of the incident reporting, along with emphasizing that 85% of the time the problem is with the process. The individual accounted for only 15% of the problem. A follow-up survey in August 2002 along with the significant increase in the number of incident reports being filed indicated the process had improved. Plans are to continue with the education and to re-survey in January 2003.

## **Ergonomic Interventions pilot**

The pilot project functioned at the Analytical Services group (222SLabs) and concentrated on musculoskeletal injury prevention. The project had three primary features at its core. These were education and training; ergonomic hazard prevention and control; and medical management. The two work conditioning specialists at HEHF meet with employees at the labs weekly to discuss concerns and offer information on practices to reduce or eliminate muscle strain and fatigue. The pilot continued for approximately one year. Although the employees expressed satisfaction and continuing interest in the project, it was discontinued due to funding issues.

## **EJTA Survey**

The Employee Job Task Analysis process was developed to place individual employees in the correct medical program based on potential hazards experienced during the normal work process. Since its inception there have been complaints about the process, with the most common complaint being that the employee did not have adequate input into the process. The survey found that the majority of the respondents were satisfied with the system. The majority of respondents also indicated they had completed the DOE historic health exposure questionnaire although they did not have serious concerns about past exposures. The survey results, however, did indicate that there was a minority group of individuals who have concerns about both the EJTA process and past exposures from work at Hanford. It was recommended that although a minority of those who responded fit these categories, their concerns should nevertheless be taken into consideration in planning further communications regarding these two issues.

## **Health Risk Appraisal**

The primary concerns of the Hanford Environmental Health Foundation are, of necessity, the occupational injuries and illness of the Site worker. One area that we may frequently overlook is the costs, both in time lost and dollars, associated with personal health and safety habits. In reviewing the data available for the Site on personal health risks it is apparent that the Site workers have similar issues to those of the majority of the U.S.A., including obesity and physical inactivity. Hanford workers often compare unfavorably to the general population in the areas of obesity, hypertension, high cholesterol, and low physical activity.

## **Aging Workforce**

As the Hanford workforce ages, we are beginning to see a noticeable difference in the occurrences of certain illnesses associated with an aging population. The two most common complaints among both males and females over the age of 50 are

- digestive system problems (males, 19%; females 13%)
- musculoskeletal problems (males, 19%; females 15%).

In a working population with approximately 40% who are age 50 or older, it is important to be aware of the benefits and risks associated with an aging workforce. There are also ways to improve the odds for maintaining a healthier, less-risk-prone workforce even though it is getting older. During the coming year the medical surveillance and health education team at HEHF will work together with the clinical staff to identify the issues specific to our Site population and to promote healthy aging and reduce our collective risk for injuries and illnesses.

## **Ambulance Runs from HEHF**

A review of 23 cases in FY 2002 that resulted in the patient being transported by ambulance to Kadlec Medical Center emergency department for cardiac related problems indicated that the patient's prior history of cardiac related problem was the most statistically significant risk factor in the early identification of these patients. Plans are to incorporate this information into our annual health maintenance examinations of workers in order for them to follow-up more often with their personal physicians.

- **Enhancing Hanford-related health information to Hanford workers and community physicians continued to be a priority issue for FY 2002. HEHF has given approximately 282 presentations:**

Advanced Cardiac Life Support  
Aging Workforce Issues & Flex Worker Stretching Intervention  
Asbestos Work Class I, II and III  
Basic Life Support/CPR Training  
Beryllium Presentation  
Blast Injuries, Triage and Trauma Management.  
Chemical Warfare Agents & Use of Mach-1 Kits  
CIZ dressings  
Cold Weather Survival (8 weeks, plus weekend)  
Coping with Frustration

Coping with Job Stress  
 Coping with Stress  
 CPR  
 Critical Incident Stress Debriefing  
 Developing EJTA's for CHG Cold Test Project  
 EJTA Orientation/Navigation  
 Enhancements to the EJTA  
 ER Preparedness  
 Ergonomics and Groundskeepers (Work Practices)  
 Ergonomics and HPT's  
 Exposures at Hanford  
 First Aid  
 Fitness  
 General Principles of Medical Record Documentation  
 Grief Counseling  
 Heat Stress/UV Protection  
 Hazard-based Medical Surveillance programs at HEHF  
 Health and Safety Expo  
 Heavy Metal Blood Monitoring Programs Provided by Occupational Medicine  
 HEHF Beryllium Process  
 HEHF Process for Current Workers with Previous Exposures  
 Hepatitis Awareness  
 Hepatitis C Update for Veterans  
 High Magnetic Field Program & Question added to  
 EJTA  
 HIPAA  
 Injury Solutions/Ergonomics/Flex Worker  
 Intro to Biological Warfare Agents  
[Liver Function](#)  
 Management of Nerve Agent Intoxication  
 Medical Surveillance  
 Mercury Monitoring Program  
 Occupational Medicine Training for Residents  
 Occupational Stretching Presentation/Instruction  
 Perspectives from Hanford Site Medical Director  
 Physical Job Demands and Mapping EJTA Normal Physical Activities  
 Physical Job Demands and WISHA Caution Zone Criteria  
 Physical Performance and Conditioning Program Services  
 Record of Visit Refresher  
 Road to Wellness  
 Safe & Drug Free Training (HR Essentials for Leaders)  
 Safe and Drug Free Workplace  
 Search and Rescue  
 Self Care for Cold and Flu  
 Stress & changes  
 Substance Abuse Awareness Training  
 Training Sessions for Boy Scouts  
 Update on EJTA Enhancements, EJTA Activity '01 versus '02, and Asbestos  
 WISHA Standard & Physical Job Demands on the EJTA

HEHF medical staff was involved in approximately 193 site visits. One visit involved bring the Kadlec ER staff on site for a tour.

- **Beryllium Program**

FY 2002 proved to a very productive year in working with other Hanford Site contractors in improving the beryllium site wide program. This has resulted in additional funding of approximately \$472,000 for HEHF to hire seven additional employees for the beryllium program.

The following are the current statistics for the program:

**# people enrolled in the Be Program:**

BERPV & BERCU = 1,183

**# of sensitized cases:**

Sensitized- 26 more than one positive LPT-Be;  
Single Positive-12;  
1 positive - 3;  
1 borderline - 9;  
Abnormal/Combination - 10)  
Total: 60

**# with CBD**

8 with 1 probable CBD and 5 Sarcoid Dx

**Hanford Environmental Health Foundation count of Beryllium Workers by Entry Method**

<b>Entry Method</b>	<b>Count</b>
Be Questionnaire	1,082
Company	35
DOE Historic	113
EJTA	85
Medical	3
NOt entered	0
Other	5
Verbal	358
Verbal/Expo02	50
Total:	1,729

- **Enhancing access and availability to medical services**

The Hanford Environmental Health Foundation performed the following number of evaluations for FY 2002:

Medical Monitoring and Qualification Examinations

	<b>FY 2001</b>	<b>FY 2002</b>
Initial Company Exams	916	840
Medical Monitoring Program	9294	8613
Qualification Exams	5649	6513
Health Maintenance Exams	2436	2005
Medical Record Review	43	90
Additional Program Assessment	62	35
HAMTC Job Transfer	73	120
Offsite Reviews	21	14
Service Recall Assessment	360	357
Separation Assessments	664	535
No Shows	787	699
Special Agent Exam	4	1
Special Request Exam		8

Health Education Services 978

Employee Assistance Program (EAP) and Fitness for Duty (FFD)

EAP Visits	1076	871
FFD Visits	761	868
Management Counseling	98	91
Safety Training	109	54

Illness and Injury Management

Occupational Primary Care

Exposure/Unusual Events	79	95
Occupational Primary Care	2644	2024
Foreign Travel	101	122
Return to Work Evaluation	1585	1798
Work Restrictions	1977	1470

First Aid 3356 3153

## Physical Performance & Conditioning

	<b>FY 2001</b>	<b>FY 2002</b>
Ergonomic Program Services	163	290
Ergonomic Individual Services	48	73
Work Conditioning	491	993
Functional Aerobic Capacity	358	363
Work Capacity Evaluation		19

## Case Management

Cases in Disposition	126	94
New Cases	60	53
Closed Cases	41	84

Total Number of Patient Evaluations	34,033	32,343*
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## • Medical Diagnoses for FY 2002

Diagnoses from clinic visits Jan 02 – Sept 02

<b>Diagnosis category</b>	<b>non-occ</b>	<b>occ-initial</b>	<b>occ-follow-up</b>
Benign Neoplasms	6	0	0
Blood disorders	1	0	0
Circulatory system	0	1	0
Digestive system	29	1	0
Endocrine/metabolic	3	0	0
Genitourinary	4	0	0
Heart	12	0	0
Ill defined conditions	308	21	96
Infectious diseases	11	0	0
Injury/poisoning	275	55	276
Malignant neoplasms	2	0	0
Mental	12	0	2
Musculoskeletal	198	51	361
Nervous system	108	3	16
Respiratory system	86	4	9
Skin	33	3	14



- Top 40 ICD-9 Diagnosis

## ICD9 Summary Report

*Summarized by # of Cases (Most Common)*

ICD-9 Code	Description	# Cases
V68.0	Encounter for Medical Certificate	3686
89.02	Limited Interview and Evaluation	2961
V67.9	Follow-Up Examination NOS	2241
89.01	Brief Interview and Evaluation	1938
E849.3	Accident Occurring in Industrial Place/Premises	1708
V81.1	Special Screening-Hypertension	1447
V82.9	Special Screening-Condition NOS	915
401.9	Hypertension NOS	851
V70.5	Health Examination in Defined Population	737
V45.89	Postsurgical Status NEC	723
E927	Accident Due to Overexertion/Strenuous Movement	722
E849.0	Accident Occurring in Home	598
V05.8	Prophylactic Vaccination for Disease NEC	564
V65.8	Person Seeking Counseling Reason NEC	432
89.05	Diagnostic Interview and Evaluation NOS	421
89.03	Comprehensive Interview and Evaluation	405
93.57	Application of Wound Dressing NEC	393
V03.2	Prophylactic Vaccination for Tuberculosis	392
E928.8	Accident Due to Environment/Cause NEC/NOS	378
89.7	General Physical Examination	290
99.59	Vaccination/Inoculation NEC	290
724.2	Lumbago	271
E928.9	Unspecified Accident	260
883	Open Wound of Fingers	253
729.5	Pain in Limb	244
89.37	Vital Capacity Determination	225
95.41	Audiometry	217
796.2	Elevated Blood Pressure Reading w/o Htn	206
89.52	Electrocardiogram	200
E888.9	Unspecified Fall	166
719.46	Pain in Joint Lower Leg	149
719.41	Pain in Joint Shoulder Region	147
E849.9	Accident Occurring in Place NOS	146
719.43	Pain in Joint Forearm	145
799.9	Ill-Defined Condition NOS	136
465.9	Acute Upper Resp Infection Site NOS	126

- **Drug Screening Results for FY 2002**

Quarter 1: 881 drug screens

- 2 THC positive
- 1 PCP positive
- 1 cocaine positive
- 4 MRO negative after review (medication)

Quarter 2: 668 drug screens

- 5 THC positive
- 2 methamphetamine positive
- 1 specimen unsuitable - retest under direct observation
- 1 specimen insufficient quantity - fatal flaw - test not performed

Quarter 3: 592 drug screens

- 1 methamphetamine positive
- 1 cocaine positive
- 2 insufficient quantity - fatal flaw - test not performed
- 1 MRO negative after review (medication)
- 1 specimen unsuitable; retest under direct observation
- 1 THC positive (direct observation testing)

Quarter 4: 582 drug screens

- 3 THC positive
- 1 cocaine positive
- 1 MRO negative after review (medication)
- 1 PCP positive
- 1 specimen out of temperature range; test under direct observe. -THC&Met

2,723 drug screens reviewed this year for PSAP, DOT, pre-employment.

- **Exposures on the Hanford Site for FY 2002**

***EXPOSURES***

Fifty-five separate possible exposures events occurred on site resulting in 93 individuals being evaluated at HEHF. The primary reported agents as reported by the patients for these events were as follows:

Epoxy/Propane (2)	Methane
Unknown agents (22)	Nitric Acid (5)
Simple Green (2)	Acetic Acid (2)
Ammonia (9)	Lead Plates
Sikaflex (3)	Chlorine odor (4)
EXPO cleaner	Paint fumes

Methyl Acrylate	Goof Off -2
Beta radiation	Dust (2)
Petroleum/welding fumes (3)	Sulfur Dioxide
Gas fumes (2)	Citristip
2 part Epoxy (3)	Indoor air quality (6)
Smoke	Mice droppings (6)
Cesium	Arsenic Trisulfite
Herbicide	Aluminum roof coat
Mercury Vapor (7)	Strontium

**Reported Exposures by Area at Hanford:**

200 West	29	
200 East	22	
300 area	15	
100 area(s)	14	
Other	13	(600 area and RCHN)

**Reported Exposures by Contractors at Hanford:**

<b>FH</b>	<b>37</b>
CHG	26
PNNL	17
FDNW	6
BHI	3
INFO	2
OFP	1
ATG	1

- **Release of medical information for the Energy Employees Occupational Illness Compensation Program Act, Freedom of Information Act, CCSI Injury claims, and others continues to be a major function for HEHF.**

Total number of releases of information has increased from 4689 in FY 2001 to 5037 in FY 2002. We anticipate the number of request for information to continue to increase for FY 2003.

- **The Future**

FY 2003 will continue to provide challenging opportunities for HEHF in protecting the health of the Hanford worker. The studies for FY 2003 are firmly based in the Population Health Management approach at being proactive in protecting the worker:

- a. **Tank Farm Workers (Risk Communication Issues)** – HEHF will perform a 3-Year Prospective Study on Tank Farm Worker (Exposed vs. Non-Exposed) to identify early medical problems.
- b. **Beryllium Assigned Workers** – HEHF will perform a 3-Year Prospective Study on beryllium assigned workers who are currently doing work that may result in current exposure to beryllium. The purpose of this study is to closely track these workers for any changes in their medical status that may be associated with their D&D work.
- c. **HEHF Health Care Incident Reporting** – HEHF will continue with their study and implementation plan to improve reporting of health care incidents. This study will take 12 months to complete. Please refer to initial report.
- d. **Aging Workforce Risk Factors** – HEHF will perform a study of the Hanford workforce to identify high risk factors for the aging workforce that predispose them to Hanford work-related medical problems.

FY 2003 will also present the opportunity for DOE HQ EH-6 to visit HEHF to learn more about the “Hanford Model” and possibly use it as a model for other sites. FY 2003 will also present the opportunity for the medical programs to be re-examined for cost/effectiveness and for indications of evidence-based medicine.

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